

PATENT

Atty Docket No.: 10018003-1
App. Ser. No.: 10/044,558

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the amendments above and the following remarks. Claims 1, 23, and 26 have been amended herein. Claims 1-3, 5-17, 20, and 22-26 are pending of which claims 1, 23, and 26 are independent.

Claims 1-3, 5-17, 20, and 22-26 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement.

Claims 1-3, 6 and 23-26 was rejected under 35 U.S.C. §102(b) as allegedly being anticipated over Lee et al. (5,583,659) ("Lee").

Claim 5 was rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Lee in view of Kodaira et al. (6,868,183) ("Kodaira"). The Applicant notes that another Lee reference, 6,160,913, was cited in the heading of this rejection. However, the Applicant assumes that this is a typographical error because Lee '659 was used to reject independent base claim 1.

Claims 8, 10, and 15-17 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Lee in view of Hashimoto et al (6,987,045) (Hashimoto). The Applicant notes that another Lee reference, 6,160,913, was cited in the heading of this rejection. However, the Applicant assumes that this is a typographical error because Lee '659 was used to reject independent base claim 1.

These rejections are respectfully traversed for the reasons stated below.

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Allowable Subject Matter

It is noted with appreciation that claims 7, 9, 11-14, 20, and 22 were objected to as being dependent up on a rejected base claim, but allowable if rewritten in independent form.

Personal Interview Conducted

The Applicant's representative wishes to thank Examiner Le for the courtesies extended during the personal interview conducted on May 30, 2007. During the interview, the Applicant's representative explained that the prior art of record failed to teach or suggest edge-bounded averaging. Moreover, the Applicant's representative further explained that the Lee reference used to reject the independent claims also fails to teach or suggest an averaging process for determining line segments. However, examiner Le maintained the position that the Lee reference taught edge-bounded averaging and indicated that the feature of determining line segments had not been given additional consideration. No common understanding of the Lee reference or agreement was reached.

Claim Rejection Under 35 U.S.C. §112

Claims 1-3, 5-17, 20, and 22-26 were rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Specifically, the rejection alleges that the features of finding an average value of only edge pixels and only non-edge pixels, as recited in the independent claims, are not supported by the specification. The rejection sets forth a requirement for the Applicant to "cite the exact location" where these features are supported in the specification.

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Accordingly, the Applicant cites paragraph 30 of the originally filed specification. In lines 2 and 3 of paragraph 30, edge-bounded averaging is described as including the average value of connected pixels. The term "connected" is further defined in the next line of paragraph 30 as including both label and spatial proximity. The term "label," as used here, refers to the classification of the pixels as EDGE or NON EDGE. Therefore, only edge or non edge pixels are averaged when performing edge-bounded averaging. The Applicant also notes that paragraphs 31-32 and FIG. 2 further describe edge-bounded averaging.

Accordingly, withdrawal of this rejection is respectfully requested because the features of the independent claims are fully supported by the originally filed specification.

Claim Rejection Under 35 U.S.C. §102

The test for determining if a reference anticipates a claim, for purposes of a rejection under 35 U.S.C. § 102, is whether the reference discloses all the elements of the claimed combination, or the mechanical equivalents thereof functioning in substantially the same way to produce substantially the same results. As noted by the Court of Appeals for the Federal Circuit in *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984), in evaluating the sufficiency of an anticipation rejection under 35 U.S.C. § 102, the Court stated:

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim.

Therefore, if the cited reference does not disclose each and every element of the claimed invention, then the cited reference fails to anticipate the claimed invention and, thus, the claimed invention is distinguishable over the cited reference.

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The Office Action sets forth a rejection of claims 1-3, 6, and 23-26 under 35 U.S.C. §102(b) as allegedly being anticipated by Lee. This rejection is respectfully traversed because Lee fails to disclose all the features of independent claims 1, 23, and 26, and the claims that depend therefrom.

As set forth in the previous response, Lee fails to teach or suggest "finding an average value of only edge pixels having connectivity with pixel (i,j), in response to determining that pixel (i,j) is an edge pixel or an average value of only non-edge pixels having connectivity with pixel (i,j) in response to determining that pixel (i,j) is a non-edge pixel," as recited in independent claims 1, 23, and 26. In contrast to the claimed features, Lee discloses averaging all pixels within a mask. Lee does not teach averaging either only edge pixels or only non-edge pixels based on the type of pixel that the center pixel is. That is, where Lee averages every pixel within a mask, the claims recite averaging only a particular subset of pixels, i.e. edge or non-edge.

The Office Action alleges that Lee teaches these features in column 8, lines 34-43. Lines 34 and 35 of this passage state that "if area gradient...exceeds the threshold value, GT, then pixel (i,j) lies in the vicinity of an edge." The Examiner equates this sentence to a teaching of determining if a pixel is an edge pixel or a non edge pixel. The Examiner then appears to rely on the phrase "in this case" in line 36 as an implication that the additional steps explained in the passage of ascertaining L_{max} and L_{min} and calculating L_{avg} are only performed on edge pixels. The Examiner attempted to explain this position during the personal interview. However, the Applicant's representative fails to understand the logic behind this position and also fails to understand the Examiner's interpretation of column 8, lines 34-44.

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In any event, the cited passage of Lee, like the rest of the Lee reference and the other cited art, fails to teach or suggest performing edge-bounded averaging with only edge pixels or non edge pixels, as recited in independent claims 1, 23, and 26. In contrast to the claimed features, Lee teaches averaging all pixels within a window. For example, the Applicant notes column 7, lines 15-35, in which Lee provides a detailed explanation of averaging pixel windows. Here, Lee refers to the 3x3 pixel window depicted in FIG. 3A and details a calculation in which every pixel in the window is averaged.

Moreover, in column 6, lines 50-55, Lee further teaches that "each and every" pixel goes through the same averaging process, which is "identical across all such pixels." Therefore, Lee definitively teaches averaging all pixels in a window and not just the connected only edge or only non edge pixels, as recited in the independent claims. Lee provides absolutely no suggestion that only edge or only non edge pixels can, or should, be averaged. This is because, Lee teaches averaging all pixels within a pixel window. As such, Lee fails to teach or suggest the above-recited features of independent claims 1, 23, and 26.

In addition, Lee fails to teach or suggest performing edge-bounded averaging to determine line segments, as recited in independent claims 1, 23, and 26. Initially, as set forth above, Lee fails to teach performing the claimed edge-bounded averaging. However, Lee also fails to teach or suggest any averaging process to determine line segments. Lee is drawn to thresholding an image to determine if an image is a character or background. Lee fails to teach or suggest performing averaging to determine a line segment.

Lee also fails to teach "determining whether the pixels having connectivity with pixel (i,j) are edge pixels or non-edge pixels," as recited in independent claims 1, 23, and 26. Connectivity is described in the originally filed specification in paragraph 31 and illustrated

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in Figure 3, as set forth above. In contrast to this claimed feature, Lee discloses classifying only the center pixel (i,j) as edge or non-edge. Lee then repeats this process for other center pixels (i,j). Lee does not teach or suggest determining relationships of pixels within individual windows. Lee simply averages all pixels within each window without regard to their connectivity. Therefore, Lee fails to teach determining if pixels having connectivity to pixel (i,j) are edge pixels or non-edge pixels.

Accordingly, because the prior art of record fails to teach or suggest the elements of independent claims 1, 23, and 26, withdrawal of this rejection and allowance of the claims is respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a)

The test for determining if a claim is rendered obvious by one or more references for purposes of a rejection under 35 U.S.C. § 103 is set forth in MPEP § 706.02(j):

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Therefore, if the above-identified criteria are not met, then the cited reference(s) fails to render obvious the claimed invention and, thus, the claimed invention is distinguishable over the cited reference(s).

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Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Kodaira.

Lee and Kodaira, taken singly or in combination, fail to teach or suggest the elements of independent claim 1, from which claim 5 depends, for the reasons set forth above.

Accordingly, claim 5 is allowable at least by virtue of its dependence on claim 1 and withdrawal of this rejection and allowance of the claims is respectfully requested.

Claims 8, 10, and 15-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lee in view of Hashimoto.

Lee and Hashimoto, taken singly or in combination, fail to teach or suggest the elements of independent claim 1, from which claims 8, 10, and 15-17 depend, for the reasons set forth above. Accordingly, claims 8, 10, and 15-17 are allowable at least by virtue of their dependence on claim 1 and withdrawal of this rejection and allowance of the claims is respectfully requested.

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Conclusion


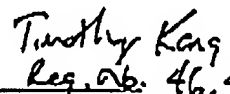
In light of the foregoing, withdrawal of the rejections of record and allowance of this application are earnestly solicited.

Should the Examiner believe that a telephone conference with the undersigned would assist in resolving any issues pertaining to the allowability of the above-identified application, please contact the undersigned at the telephone number listed below. Please grant any required extensions of time and charge any fees due in connection with this request to deposit account no. 08-2025.

Respectfully submitted,

Dated: July 24, 2007

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